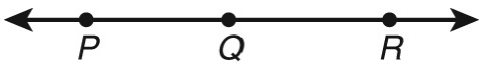


Geometry Quarter 1 Final Review**Multiple Choice***Identify the choice that best completes the statement or answers the question.*

- _____ 1 Which of \overline{PQ} and \overleftrightarrow{QR} contains P ?



- A \overline{PQ} only
B \overleftrightarrow{QR} only
C Both
D Neither
- _____ 2 K is between J and L . $JK = 3x - 5$, and $KL = 2x + 1$. If $JL = 16$, what is JK ?

- A 7
B 8
C 9
D 13

- _____ 3 \overrightarrow{SU} bisects $\angle RST$. If $m\angle RST = (8x + 15)^\circ$ and $m\angle RSU = 5x^\circ$, what is $m\angle RST$?

- A 25°
B 37.5°
C 50°
D 75°

- _____ 4 If the complement of an angle measure 22° , what is the measure of its supplement?

- A 68°
B 78°
C 112°
D 158°

Name: _____

ID: A

- _____ 5 The perimeter of a square is 8 meters. What is its area?
- | | |
|-------------------|--------------------|
| A 4 m^2 | C 16 m^2 |
| B 8 m^2 | D 64 m^2 |
- _____ 6 What is the area of a circle whose diameter is 3 centimeters?
- | | |
|--------------------------|------------------------|
| A $1.5\pi \text{ cm}^2$ | C $6\pi \text{ cm}^2$ |
| B $2.25\pi \text{ cm}^2$ | D $36\pi \text{ cm}^2$ |
- _____ 7 The midpoint of a segment is $(2, -5)$, and one of the endpoints is $(3, 6)$. Where is the other endpoint?
- | | |
|--------------|----------------|
| A $(1, -16)$ | C $(2.5, 0.5)$ |
| B $(4, 17)$ | D $(0.5, 5.5)$ |
- _____ 8 Where is the image of $(-6, 2)$ reflected across the graph of $y = -x$?
- | | |
|--------------|-------------|
| A $(2, -6)$ | C $(2, 6)$ |
| B $(-2, -6)$ | D $(-2, 6)$ |
- _____ 9 What is the next term in the sequence?
729, -243, 81, -27, ...
- | | |
|------|-----|
| A -9 | C 3 |
| B -3 | D 9 |

- _____ 10 For which conditional statement $(p \rightarrow q)$ is its converse $(q \rightarrow p)$ false?
- | | | | |
|---|--|---|---|
| A | If a fruit has seeds inside, then it is an orange. | C | If the day is between Monday and Wednesday, then it is Tuesday. |
| B | If Meg lives in Egypt, then she lives in Africa. | D | If the car will not start, then it is out of gas. |
- _____ 11 For which conditional statement $(p \rightarrow q)$ is its inverse $(\sim p \rightarrow \sim q)$ false?
- | | | | |
|---|---|---|--|
| A | If a point is a midpoint of a segment, then it divides the segment into two congruent segments. | C | If you see a zebra, then you must be in a zoo. |
| B | If Mike does not become an airplane pilot, then he will not learn how to fly a plane. | D | If the biggest holiday of the month is Thanksgiving, then the month is November. |
- _____ 12 Which justifies the statement?
If $\angle 1 \cong \angle 2$ and $\angle 2 \cong \angle 3$, then $\angle 1 \cong \angle 3$
- | | | | |
|---|------------------------------------|---|----------------------------------|
| A | Transitive Property of Congruence | C | Symmetric Property of Congruence |
| B | Commutative Property of Congruence | D | Reflexive Property of Congruence |
- _____ 13 Which is the most logical conclusion by the Law of Syllogism?
If one of the angles of a triangle is obtuse, then the other two angles are acute. If a triangle is an obtuse triangle, then one of its angles is obtuse. A triangle has two acute angles.
- | | | | |
|---|--|---|--------------------------------------|
| A | The triangle is obtuse. | C | The triangle is not obtuse. |
| B | The other angle in the triangle is obtuse. | D | None of these are valid conclusions. |

____ 14 Which is a true biconditional statement?

- A Four points are coplanar if and only if they are noncollinear. C A side of a triangle is a hypotenuse if and only if it is the longest side of a triangle.
- B Two angles are complementary if and only if the sum of their measures is 90° . D A figure has an endpoint if and only if the figure is a segment.

____ 15 Complete the proof.

Given: $x = -5$ **Prove:** $2(x + 5) = 0$ **Proof:**

Statements	Reasons
1. $x = -5$	1. Given
2. $x + 5 = 0$	2. Add. Prop. of =
3. $2(x + 5) = 0$	3. ____?

- A Multiplication Property of Equality C Subtraction Property of Equality
- B Transitive Property of Equality D Reflexive Property of Equality

____ 16 Complete the statement.

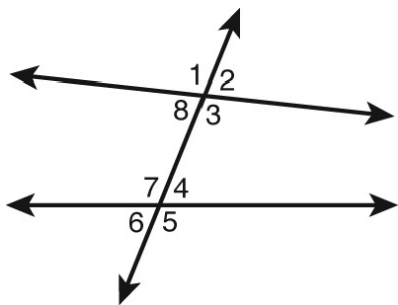
Two lines are parallel if the same-side interior angles are _____ angles.

- A complementary C congruent
- B supplementary D corresponding

Name: _____

ID: A

_____ 17 Which angles are alternate interior angles?



A $\angle 1$ and $\angle 4$

B $\angle 1$ and $\angle 5$

C $\angle 3$ and $\angle 4$

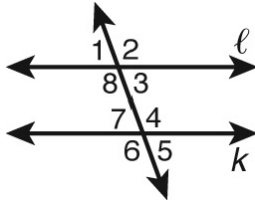
D $\angle 3$ and $\angle 7$

Name: _____

ID: A

_____ 18 Complete the proof.

Given: $k \parallel \ell$



Prove: $\angle 1$ and $\angle 6$
are supplementary.

Proof:

Statements	Reasons
1. $k \parallel \ell$	1. Given
2. $\angle 1 \cong \angle 5$	2. _____?
3. $m\angle 1 = m\angle 5$	3. Def. of \cong
4. $\angle 5$ and $\angle 6$ are supplementary.	4. Linear Pair Thm.
5. $m\angle 5 + m\angle 6 = 180^\circ$	5. Def. of supp. \angle s
6. $m\angle 1 + m\angle 6 = 180^\circ$	6. Subst.
7. $\angle 1$ and $\angle 6$ are supplementary.	7. Def. of supp. \angle s

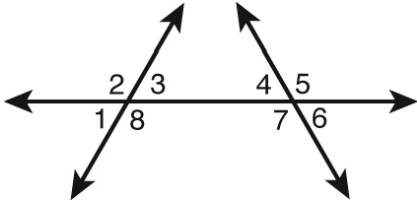
- A Alternate Exterior Angle Theorem
B Alternate Interior Angle Theorem

- C Same-Side Interior Angle Theorem
D Corresponding Angle Theorem

_____ 19 A line passes through the points $(5, -8)$ and $(6, 2)$. What is the slope?

- A -10 C $\frac{1}{10}$
B $-\frac{6}{11}$ D 10

____ 20 Complete the paragraph proof.

Given: $\angle 2 \cong \angle 5$ **Prove:** $\angle 1 \cong \angle 4$ **Proof:**

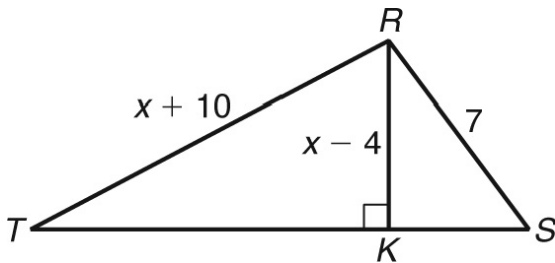
It is given that $\angle 2 \cong \angle 5$. By the Linear Pair Theorem, $m\angle 2 + m\angle 1 = 180^\circ$ and _____. By the Congruent Supplements Theorem, $\angle 1 \cong \angle 4$.

A $m\angle 2 + m\angle 3 = 180^\circ$

C $m\angle 4 + m\angle 5 = 180^\circ$

B $m\angle 4 + m\angle 7 = 180^\circ$

D $m\angle 6 + m\angle 7 = 180^\circ$

____ 21 Find all values for x .

A $x < 11$

C $4 < x < 11$

B $0 < x < 11$

D $x > -3$

Name: _____

ID: A

_____ 22 What is the slope of the line perpendicular to $y = -\frac{3}{2}x + 9$?

A $\frac{3}{2}$

C $-\frac{2}{3}$

B $\frac{2}{3}$

D $-\frac{3}{2}$

_____ 23 What is the equation of the line that passes through $(0, 2)$ and $(4, 6)$?

A $y = x + 2$

C $y = x - 2$

B $y = \frac{1}{2}x - 2$

D $y = -2x + 2$

_____ 24 Three sides of a triangle are shown. Which triangle is acute?

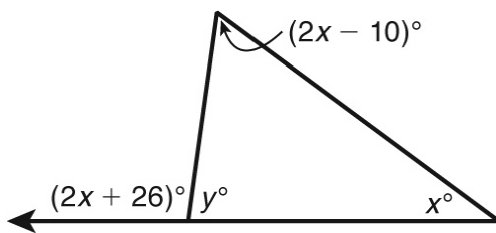
A 3, 4, 5

C 4, 5, 6

B 5, 12, 13

D 4, 7, 10

_____ 25 Find y .



A 36°

C 128°

B 82°

D 134°

_____ 26 Point R in $\triangle QRS$ has coordinates $(-2, 1)$. $\triangle QRS$ underwent a dilation with scale factor 5 centered at the origin. What are the coordinates of the image of R ?

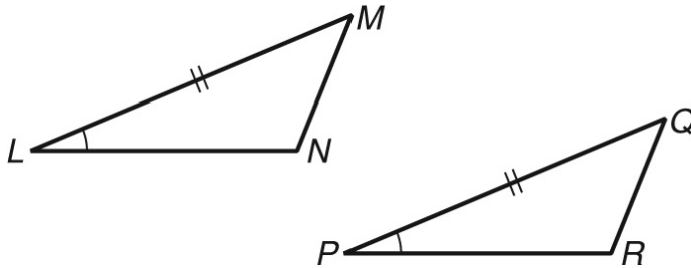
A $(-10, 1)$ C $(-0.4, 1)$ B $(-10, 5)$ D $(-0.4, 0.2)$

_____ 27 Complete the statement.

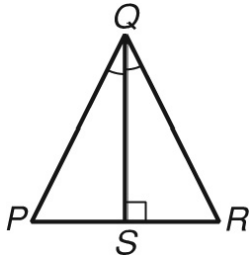
If $\angle U \cong \angle P$, $\angle S \cong \angle Q$, $\angle T \cong \angle R$, $\overline{UT} \cong \overline{PR}$, $\overline{US} \cong \overline{PQ}$, and $\overline{ST} \cong \overline{QR}$, then $\triangle PQR \cong$ _____.

A $\triangle RQP$ C $\triangle TUS$ B $\triangle STU$ D $\triangle UST$

_____ 28 What is the least information needed to prove the triangles congruent by SSS?

A $\angle M \cong \angle Q$ C $\overline{LN} \cong \overline{PR}$ and $\overline{MN} \cong \overline{QR}$ B $\overline{LN} \cong \overline{PR}$ D $\overline{LN} \cong \overline{QR}$ and $\overline{MN} \cong \overline{PR}$

_____ 29 Why is $\triangle PQS \cong \triangle RQS$?



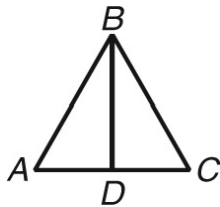
- A SAS
B ASA

- C AAA
D HL

_____ 30 Complete the proof.

Given: $\triangle ABC$ is equilateral, and \overline{BD} is an altitude.

Prove: \overline{BD} bisects \overline{AC} .



Proof:

By definition of equilateral, $\overline{AB} \cong \overline{CB}$, and by the Reflexive Property of Congruences, $\overline{BD} \cong \overline{BD}$. Since \overline{BD} is an altitude, $\angle BDA$ and $\angle BDC$ are right angles. So $\triangle BDA$ and $\triangle BDC$ are right \angle s and $\triangle BDA \cong \triangle BDC$ by HL. Therefore $\overline{AD} \cong \overline{CD}$ by _____. By definition of bisector, \overline{BD} bisects \overline{AC} .

- A HL
B SAS

- C ASA
D CPCTC

- _____ 31 **Given:** $TUVW$ is a rectangle.

Prove: $TV = UW$

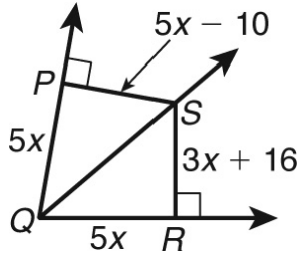
Which set of coordinates could you use to do a coordinate proof?

- | | | | |
|---|-------------------------------------|---|--------------------------------------|
| A | $T(0,0), U(a,b), V(0,c), W(-a,c-b)$ | C | $T(a,b), U(a+b,0), V(a+b,c), W(0,c)$ |
| B | $T(0,0), U(a,0), V(a,b), W(0,b)$ | D | $T(0,0), U(a,0), V(a,a), W(0,a)$ |

- _____ 32 One of the base angles of an isosceles triangle is 40° . Which is the triangle classification according to its angles?

- A acute
B right
C obtuse
D equiangular

- _____ 33 \overrightarrow{QS} bisects $\angle PQR$. what is QR ?

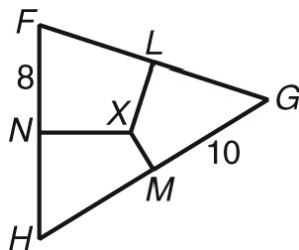


- | | | | |
|---|----|---|----|
| A | 65 | C | 40 |
| B | 50 | D | 15 |

Name: _____

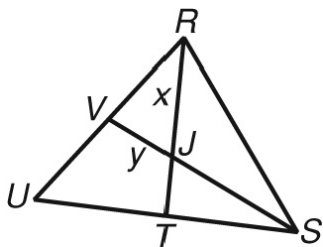
ID: A

- _____ 34 \overline{XL} , \overline{XM} , and \overline{XN} are perpendicular bisectors. The perimeter of $\triangle FGH$ is 54. What is FG ?



- | | |
|------|------|
| A 36 | C 18 |
| B 27 | D 9 |

- _____ 35 \overline{SV} and \overline{RT} are medians. What is $JS - JT$?



- | | |
|-------------|-----------------------|
| A $x - y$ | C $2y - \frac{1}{2}x$ |
| B $2x - 3y$ | D $\frac{1}{2}x - 2y$ |

- _____ 36 In $\triangle JKL$, $JK > JL > KL$. Which is the correct order of the angles from smallest measure to largest?

- | | |
|----------------------------------|----------------------------------|
| A $\angle J, \angle L, \angle K$ | C $\angle K, \angle L, \angle J$ |
| B $\angle J, \angle K, \angle L$ | D $\angle L, \angle K, \angle J$ |

Name: _____

ID: A

_____ 37 Two sides of a $30^\circ-60^\circ-90^\circ$ triangle are 9 and 18. What is the length of the third side?

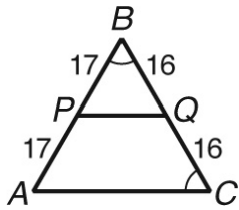
A $9\sqrt{2}$

B $9\sqrt{3}$

C $18\sqrt{2}$

D $18\sqrt{3}$

_____ 38 \overline{PQ} is a midsegment. What is PQ ?



A 16

B 17

C 32

D 34

Geometry Quarter 1 Final Review

Answer Section

MULTIPLE CHOICE

1	ANS: C MSC: DOK 1	PTS: 1	DIF: 2	TOP: Cumulative Test, Chapter 5
2	ANS: A MSC: DOK 2	PTS: 1	DIF: 2	TOP: Cumulative Test, Chapter 5
3	ANS: D MSC: DOK 2	PTS: 1	DIF: 2	TOP: Cumulative Test, Chapter 5
4	ANS: C MSC: DOK 2	PTS: 1	DIF: 2	TOP: Cumulative Test, Chapter 5
5	ANS: A MSC: DOK 2	PTS: 1	DIF: 2	TOP: Cumulative Test, Chapter 5
6	ANS: B MSC: DOK 2	PTS: 1	DIF: 2	TOP: Cumulative Test, Chapter 5
7	ANS: A MSC: DOK 2	PTS: 1	DIF: 2	TOP: Cumulative Test, Chapter 5
8	ANS: D MSC: DOK 2	PTS: 1	DIF: 2	TOP: Cumulative Test, Chapter 5
9	ANS: D MSC: DOK 2	PTS: 1	DIF: 2	TOP: Cumulative Test, Chapter 5
10	ANS: B MSC: DOK 2	PTS: 1	DIF: 2	TOP: Cumulative Test, Chapter 5
11	ANS: C MSC: DOK 2	PTS: 1	DIF: 2	TOP: Cumulative Test, Chapter 5
12	ANS: A MSC: DOK 2	PTS: 1	DIF: 2	TOP: Cumulative Test, Chapter 5
13	ANS: D MSC: DOK 2	PTS: 1	DIF: 2	TOP: Cumulative Test, Chapter 5
14	ANS: B MSC: DOK 2	PTS: 1	DIF: 2	TOP: Cumulative Test, Chapter 5
15	ANS: A MSC: DOK 2	PTS: 1	DIF: 2	TOP: Cumulative Test, Chapter 5
16	ANS: B MSC: DOK 1	PTS: 1	DIF: 2	TOP: Cumulative Test, Chapter 5
17	ANS: D MSC: DOK 1	PTS: 1	DIF: 2	TOP: Cumulative Test, Chapter 5
18	ANS: A TOP: Cumulative Test, Chapter 5	PTS: 1	DIF: 2 MSC: DOK 2	NAT: NT.CCSS.MTH.10.9-12.G.CO.9
19	ANS: D MSC: DOK 2	PTS: 1	DIF: 2	TOP: Cumulative Test, Chapter 5
20	ANS: C TOP: Cumulative Test, Chapter 5	PTS: 1	DIF: 2 MSC: DOK 2	NAT: NT.CCSS.MTH.10.9-12.G.CO.9
21	ANS: C MSC: DOK 2	PTS: 1	DIF: 2	TOP: Cumulative Test, Chapter 5

22	ANS: B MSC: DOK 2	PTS: 1	DIF: 2	TOP: Cumulative Test, Chapter 5
23	ANS: A MSC: DOK 2	PTS: 1	DIF: 2	TOP: Cumulative Test, Chapter 5
24	ANS: C MSC: DOK 2	PTS: 1	DIF: 2	TOP: Cumulative Test, Chapter 5
25	ANS: B MSC: DOK 2	PTS: 1	DIF: 2	TOP: Cumulative Test, Chapter 5
26	ANS: B MSC: DOK 2	PTS: 1	DIF: 2	TOP: Cumulative Test, Chapter 5
27	ANS: D MSC: DOK 2	PTS: 1	DIF: 2	TOP: Cumulative Test, Chapter 5
28	ANS: C NAT: NT.CCSS.MTH.10.9-12.G.SRT.4 TOP: Cumulative Test, Chapter 5	PTS: 1	DIF: 2 MSC: DOK 2	NT.CCSS.MTH.10.9-12.G.CO.10 TOP: Cumulative Test, Chapter 5
29	ANS: B MSC: DOK 2	PTS: 1	DIF: 2	TOP: Cumulative Test, Chapter 5
30	ANS: D NAT: NT.CCSS.MTH.10.9-12.G.CO.9 TOP: Cumulative Test, Chapter 5	PTS: 1	DIF: 2 MSC: DOK 2	NT.CCSS.MTH.10.9-12.G.CO.10 TOP: Cumulative Test, Chapter 5
31	ANS: B TOP: Cumulative Test, Chapter 5	PTS: 1	DIF: 2 MSC: DOK 2	NAT: NT.CCSS.MTH.10.9-12.G.CO.9 TOP: Cumulative Test, Chapter 5
32	ANS: C MSC: DOK 2	PTS: 1	DIF: 2	TOP: Cumulative Test, Chapter 5
33	ANS: A MSC: DOK 2	PTS: 1	DIF: 2	TOP: Cumulative Test, Chapter 5
34	ANS: C MSC: DOK 2	PTS: 1	DIF: 2	TOP: Cumulative Test, Chapter 5
35	ANS: C MSC: DOK 3	PTS: 1	DIF: 2	TOP: Cumulative Test, Chapter 5
36	ANS: B MSC: DOK 2	PTS: 1	DIF: 2	TOP: Cumulative Test, Chapter 5
37	ANS: B MSC: DOK 2	PTS: 1	DIF: 2	TOP: Cumulative Test, Chapter 5
38	ANS: B MSC: DOK 3	PTS: 1	DIF: 2	TOP: Cumulative Test, Chapter 5